Remarks

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the pending Final Office Action, the Examiner rejected claims 1-5, under 35 U.S.C. §103(a), as allegedly being unpatentable over Grover '917 (U.S. Pat. No. 5,795,917) in view of Akahori '538 (EP 1148538); and rejected claims 6-17, under 35 U.S.C. §103(a), as allegedly being unpatentable over Kido '111 (EP 1061111) in view of Akahori '538.

By this Amendment, claims 6 and 13 have been amended for form and clarity and no new matter has been added. As such, claims 1-17, are currently presented for examination of which claims 1, 6, and 13 are independent.

Applicants traverse the §103(a) rejections for the following reasons:

I. Rejections Under §103(a).

As noted above, independent claim 1 is directed to a chemical-mechanical-polishing slurry composition and positively recites, *inter alia*, ceria polishing particles . . . ***the ceria polishing particles are polyhedron***. These features are amply supported by the embodiments disclosed in the written description. (*See*, Specification: page 13, line 23 – page 14, line 13).

With this said, Applicants respectfully submit that, despite the Examiner's contentions, none of the asserted references, whether taken alone or in reasonable combination, remotely suggest each and every element of claim 1 including, for example, the features identified above. In particular, the Examiner asserted that Akahori '538 discloses the use of ceria abrasive polycrystals, and that polycrystals are a combination of several single crystals and are considered to be polyhedron in structure. Applicants respectfully disagree.

Simply put, there is absolutely nothing in Akahori '538, that suggests that the ***ceria polishing particles are polyhedron***. That is, Akahori '538 only reiterates the common

knowledge that "abrasive polycrystals" are aggregates of monocrystals. (*See*, Akahori '538: par. [0015]). However, there is no mention in Akahori '538, whatsoever, regarding the actual shape of the ceria particle.

Moreover, artisans of ordinary skill will readily attest that "abrasive polycrystals" cannot be identified as ***polyhedron*** in shape. Whether the ceria particles are polyhedron depends on specific manufacturing conditions of the ceria particles such as the calcination temperature, the size of media used in a milling process, the milling intensity and the milling time of the milling process, and the like. Because there is a dearth of information in Akahori '538 regarding the shape of the ceria particles as well as the manufacturing conditions, the "abrasive polycrystals" disclosed in Akahori '538 cannot be construed to be polyhedron.

Applicants further submit that none of the remaining references, namely, Grover '917 and Kido '111 cure the deficiencies of Akahori '538 noted above and fail in their own right to suggest each and every element of the claim. As such, claim 1 is patentable over the references and claims 2-5 depend from claim 1, claims 2-5 are patentable at least by virtue of dependency as well as for their additional recitations.

With respect to independent claim 6, the claim positively recites, *inter alia*, that the ***ceria polishing particles are polyhedron*** . . . the polishing conditions are controlled such that ***the zeta potential on the surface of the oxide layer becomes a negative value and the zeta potential on the surface of the nitride layer becomes a positive value.***

Similarly, independent claim 13 positively recites, inter alia, that the ***ceria polishing particles are polyhedron*** . . . the step of confirming the selection ratio, the confirming conditions are controlled such that ***the zeta potential on the surface of the oxide layer becomes a negative value and the zeta potential on the surface of the nitride layer becomes a positive value.***

Applicants point out that claims 6 and 13 recite that the ***ceria polishing particles are polyhedron*** and are therefore patentable for the reasons noted above. In addition, the disclosed embodiments provide that an electrostatic force is generated between the anionic additive and the nitride layer having positive values of zeta potential, thereby the additive is

coated more favorably onto the surface of the nitride layer than onto that of the oxide layer. Such selective coating of the anionic additive onto the silicon nitride layer prevents particles of the abrasive from contacting directly the surface of the layer. This phenomenon can cause a great reduction in the polishing/ablating-rate of the nitride layer. (See, Specification: page 17, line 18-page 18, line 14). As such, the polishing-rate selection ratio of an oxide layer in relation to a nitride layer can be improved.

However, in stark contrast to claims 6 and 13, only the pH value of the polishing slurry composition are disclosed in Grover '917, Kido '111, and Akahori '538 and there is absolutely nothing in these references that remotely suggest the zeta potentials on the surfaces of the oxide layer and the nitride layer.

Thus, for at least these additional reasons, claims 6 and 13 are patentable over the asserted references and because claims 7-12 and claims 14-17 depend from claims 6 and 13, respectively, claims 7-12 and claims 14-17 are patentable at least by virtue of dependency as well as for their additional recitations.

Accordingly, the immediate withdrawal of the §103(a) rejections of claims 1-17 is respectfully requested.

Conclusion

Having addressed each of the foregoing rejections, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, the application is in condition for allowance. Notice to that effect is respectfully requested.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Date: May 20, 2009

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